



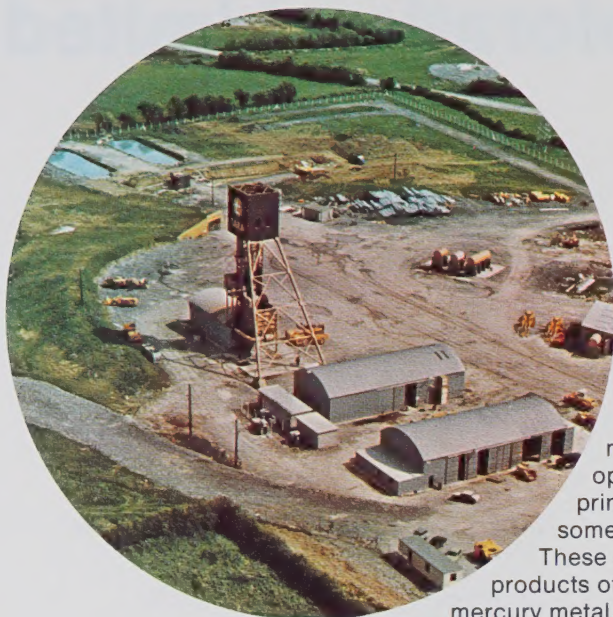
NORTHGATE EXPLORATION LIMITED

7

ANNUAL REPORT

5





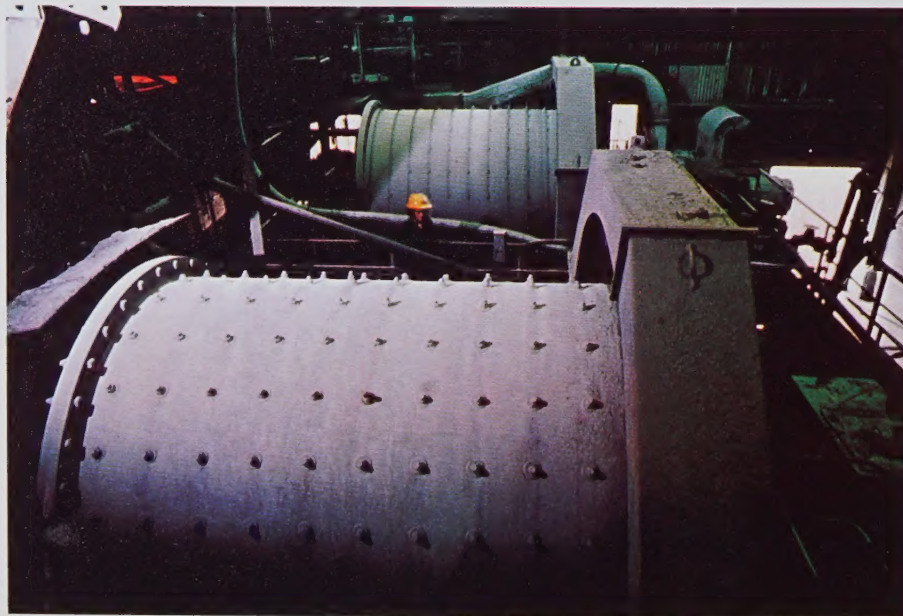
## SCOPE OF OPERATIONS

Northgate Exploration Limited is a mining, exploration and investment holding company with its mining operations in the Republic of Ireland. Its two principal wholly owned Irish subsidiaries are Irish Base Metals Limited operating the Tynagh lead-zinc-silver mine at Tynagh, County Galway, and Gortdrum Mines (Ireland) Limited operating a copper-silver mine at Gortdrum, County Tipperary. The principal products of the Tynagh Mine are lead and zinc concentrates, some of which contain payable quantities of by-product copper and silver. These concentrates are shipped to various European smelters. The principal products of the Gortdrum Mine are silver bearing copper concentrates and mercury metal, the latter being produced as a by-product. These products are principally shipped to a smelter in Spain and the mercury is sold to various firms. The Gortdrum Mine ceased operation during August, 1975.

Northgate, through its various wholly owned Irish subsidiary companies, maintains an active exploration program throughout the Republic of Ireland. Northgate is also active in exploration in Canada and in the State of Alaska, U.S.A., through joint ventures with other companies.

Northgate has a number of affiliated companies, principally Anglo United Development Corporation Limited (24%), Westfield Minerals Limited (45%) and Whim Creek Consolidated N.L. (32%), which provide a wide exposure to exploration and mine development in other countries in addition to Ireland, notably Australia, Canada, Greenland and U.S.A. In addition to its shareholdings in the foregoing affiliated companies, Northgate has substantial other investment holdings including an approximate 10% interest in Tara Exploration and Development Company Limited which, through its Irish subsidiary, Tara Mines Limited, is developing its large zinc-lead mine near Navan, County Meath, Ireland, for production, scheduled for 1977. Northgate also holds a combined direct and indirect interest of approximately 9.6% in Vestgron Mines Limited which, through its subsidiary, Greenex A/S, operates a large zinc-lead mine in West Greenland.

Northgate and its wholly owned subsidiaries have a total of 358 employees, about 95% of which are employed in mining operations and exploration. The Company has approximately 10,000 registered shareholders, mainly in the U.S.A. and Canada.



**Upper circle,** Minesite at Navan, County Meath, Tara Mines Limited, subsidiary of Tara Exploration and Development Company Limited. **Left:** Part of the grinding section, Tynagh Mine.



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HEAD OFFICE

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MINE OFFICES

Irish Base Metals Limited  
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Gortdrum Mines (Ireland) Limited  
Tipperary, County Tipperary, Republic of Ireland

AUDITORS IN CANADA

Thorne Gunn & Co., Chartered Accountants  
Toronto, Canada

AUDITORS IN IRELAND

Griffin, Lynch & Co., Dublin, Republic of Ireland

BANKERS

The Toronto-Dominion Bank, Toronto, Canada  
Bank of Nova Scotia, Toronto, Canada  
Allied Irish Banks, Dublin, Republic of Ireland

TRANSFER AGENTS

CANADA — Crown Trust Company  
Toronto, Ontario; Calgary, Alberta; Vancouver, British Columbia  
UNITED STATES OF AMERICA —  
The Bank of New York, New York, N.Y.  
UNITED KINGDOM —  
Charter Consolidated Limited, Ashford, Kent, England

REGISTRARS

CANADA  
Canada Permanent Trust Company  
Toronto, Ontario; Calgary, Alberta; Vancouver, British Columbia  
UNITED STATES OF AMERICA  
Bankers Trust Company, New York, N.Y.  
UNITED KINGDOM  
Morgan Grenfell & Co., Limited, London, England

SOLICITORS

Fasken & Calvin, Toronto, Canada  
Olin, Murphy, Manuel & Lynch, New York, U.S.A.  
Whitney, Moore & Keller, Dublin, Republic of Ireland

STOCK EXCHANGE  
LISTINGS

New York Stock Exchange, New York, U.S.A.  
The Stock Exchange, London England  
Toronto Stock Exchange, Toronto, Canada



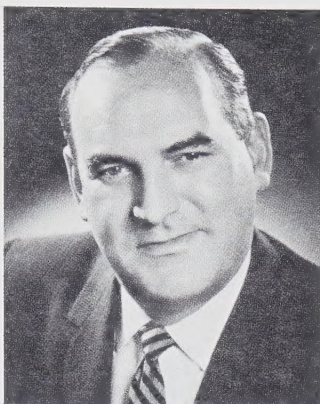
## Financial Highlights

	1975	1974
Net smelter value	\$20,418,000	\$25,945,000
Operating income (before w.o.'s)	4,025,000	10,720,000
Non-operating revenue (net)	1,796,000	1,635,000
Cash flow	5,030,000	8,361,000
Depreciation and amortization	3,355,000	4,255,000
Net income after extraordinary item Per share	1,156,000 \$0.17	4,026,000 \$0.61
AT YEAR END		
Working capital	\$17,867,000	\$16,508,000
Ratio of current assets to current liabilities	3.8 to 1	4.4 to 1
Total assets	57,086,000	57,781,000
Shareholders' equity	49,038,000	49,605,000
Investments and advances	23,762,000	23,644,000
Less provision for decline in value	1,490,000	1,250,000
	22,272,000	22,394,000
Fixed assets	15,661,000	23,233,000
Less accumulated depreciation	9,946,000	15,131,000
	5,715,000	8,102,000
Weighted average number of shares outstanding during the period used in computing earnings per share	6,891,699	6,605,739

## Production Highlights

	1975	1974
<b>Tynagh Mine</b>		
<b>Tons of ore treated</b>	648,477	667,119
<b>Production of concentrates</b>		
Tons of lead concentrates	29,734	38,084
Tons of zinc concentrates	41,988	42,511
Tons of bulk concentrates	4,277	4,849
Tons of copper concentrates	2,037	7,038
Total tons of concentrates	78,036	92,482
<b>Metals contained in concentrates sold</b>		
Lead (lbs)	44.0 million	53.1 million
Zinc (lbs)	34.7 million	39.4 million
Copper (lbs)	0.5 million	1.1 million
Silver (ozs)	584,000	870,000
<b>Gortdrum Mine</b>		
<b>Tons of ore treated in concentrator</b>	(a)354,612	491,382
Tons of concentrates produced	14,183	13,289
Flasks of mercury recovered	423	775
Tons of concentrates sold	17,284	12,112
Flasks of mercury sold	nil	908
<b>Metals contained in concentrates sold</b>		
Copper (lbs)	14.5 million	9.9 million
Silver (ozs)	469,000	320,000

NOTE: (a) January-August



*Patrick J. Hughes  
President of Northgate Exploration Limited*

## **DIRECTORS' REPORT TO SHAREHOLDERS**

For Northgate, 1975 was a year of achievement despite problems in world metal markets which related to general economic conditions. We emerged from a year of reduced earnings financially stronger in the key areas of working capital and value of investments. Exploration activities were expanded considerably with encouraging results in at least one principal area, the Tatestown zinc-lead prospects near Navan, Ireland.

Working capital at December 31, 1975 amounted to \$17,867,000 — an increase of \$1,359,000 from the 1974 year end figure of \$16,508,00. The quoted value of principal investments including those in associated companies totalled \$22,171,000 compared with \$17,191,000 at the 1974 year end.

Your Company's mining operations in Ireland during 1975 — in keeping with the experience of virtually all producers of base metals — were adversely affected by a combination of lower metal prices, particularly with respect to lead and copper which were down approximately 30% and 40%, respectively, from the average prices received during the preceding year, generally increased mine operating costs and a moderate shortfall in production at the Tynagh Mine.

### **Financial Results**

Consolidated net income for the year was \$1,156,000 equal to \$0.17 per share as compared with \$4,026,000 or \$0.61 per share in 1974. The per share figures were moderately influenced by the differential in the weighted average number of shares outstanding for the comparative periods, being 6,891,699 shares in 1975 and 6,605,739 shares in 1974. Cash flow was \$5,030,000 compared with \$8,361,000 in 1974.

As previously mentioned, working capital at year end 1975 amounted to \$17,867,000. The major portion of this working capital consists of cash, including short term securities and deposits. Other assets include an amount of \$2,794,000 cash deposited as collateral for a loan guarantee.



## Metal Prices

Quite apart from the obvious influences of tonnage of ore mined, variations in the grades of ore treated and resultant concentrate production, significant changes in metal prices impact heavily on mine operating revenues.

The buoyant metal prices that prevailed during the first half of 1974 for copper, lead and silver, were appreciably lower in the second half of that year. This downtrend continued in 1975, particularly with respect to lead and copper the average quoted prices of which were approximately 30% and 40%, respectively, lower than those recorded for 1974.

The sole exception to this trend was zinc. The G. O. B. European Producer price for zinc, which is the relevant price for your Company's production of this metal, was increased twice during 1974, to £330 per metric ton in March and to £360 per metric ton the following September. In October, 1975 the G. O. B. Producer price was again increased, this time to £390 per metric ton (the equivalent of approximately U.S. 36.4¢ per lb.).

However, the depreciation of the U.K. £ sterling from U.S. \$2.32 in September 1974 to U.S. \$2.06 in October, 1975 completely absorbed the increase from £360 to £390 per metric ton. The method of pricing was recently changed from U.K. £ sterling to U.S. currency with the G. O. B. European Producer price for zinc now quoted at \$795 per metric ton, which equates to a constant U.S. 36.06 cents per lb.

The following table shows the average metal prices received from sales of concentrates during 1975 with comparative prices for 1974, as well as the average quoted prices for 1975. Prices are based on London Metal Exchange quotations for lead, copper and silver, and the G. O. B. European Producer price for zinc, all expressed in equivalent U.S. funds:

			Quoted Average
<b>Tynagh Mine</b>	1975	1974	1975
Lead — per lb. ....	17.6¢	26.0¢	18.5¢
Zinc — per lb. ....	35.0¢	35.0¢	36.8¢
Copper — per lb. ....	53.3¢	84.2¢	55.9¢
Silver — per oz. ....	\$4.34	\$4.73	\$4.44
<b>Gortdrum Mine</b>			
Copper — per lb. ....	54.4¢	83.0¢	
Silver — per oz. ....	\$4.37	\$4.59	

The different prices received for copper and silver by the Tynagh Mine and the Gortdrum Mine is a factor of the different timing of concentrate shipments from these two mines and the fact that the prices of these two metals are often subject to erratic short term variations.

The table on page 4 summarizes the 1975 financial and production highlights with comparative figures for 1974. A detailed five year summary of financial highlights and production statistics appears on pages 26 and 27.

## Operations

### Tynagh Mine

Tons of ore treated at the Tynagh Mine during 1975 amounting to 648,477 tons were approximately 10% below forecast but the average head grade of ore mined, while lower than in 1974, exceeded prediction in zinc and this together with the improved recovery of zinc resulted in concentrate production closely approximating forecast at a total of 78,036 tons. The forecast concentrate production for 1975 was approximately 80,000 tons.

Lead concentrate production was roughly in line with the 10% reduction in forecast tons treated. However, there was a compensating increase in the production of zinc concentrates together with a moderate reduction in bulk (lead-zinc) concentrates and, due to a lower copper content in the ore, a significant reduction in copper concentrate produced.

As noted in the 1974 Annual Report, copper concentrate produced has been classified as non-saleable under current market conditions. However, during 1975 a trial shipment totalling approximately 1,225 tons of this material was sold and firm arrangements have been made for the sale of a further 2,750 tons in 1976.

Forecast concentrate production for 1976 is a total of 71,000 tons including approximately 3,800 tons of copper concentrate. The schedule of operations for 1976 assumes the mining and treatment of approximately 675,000 tons of ore.

### Gortdrum Mine

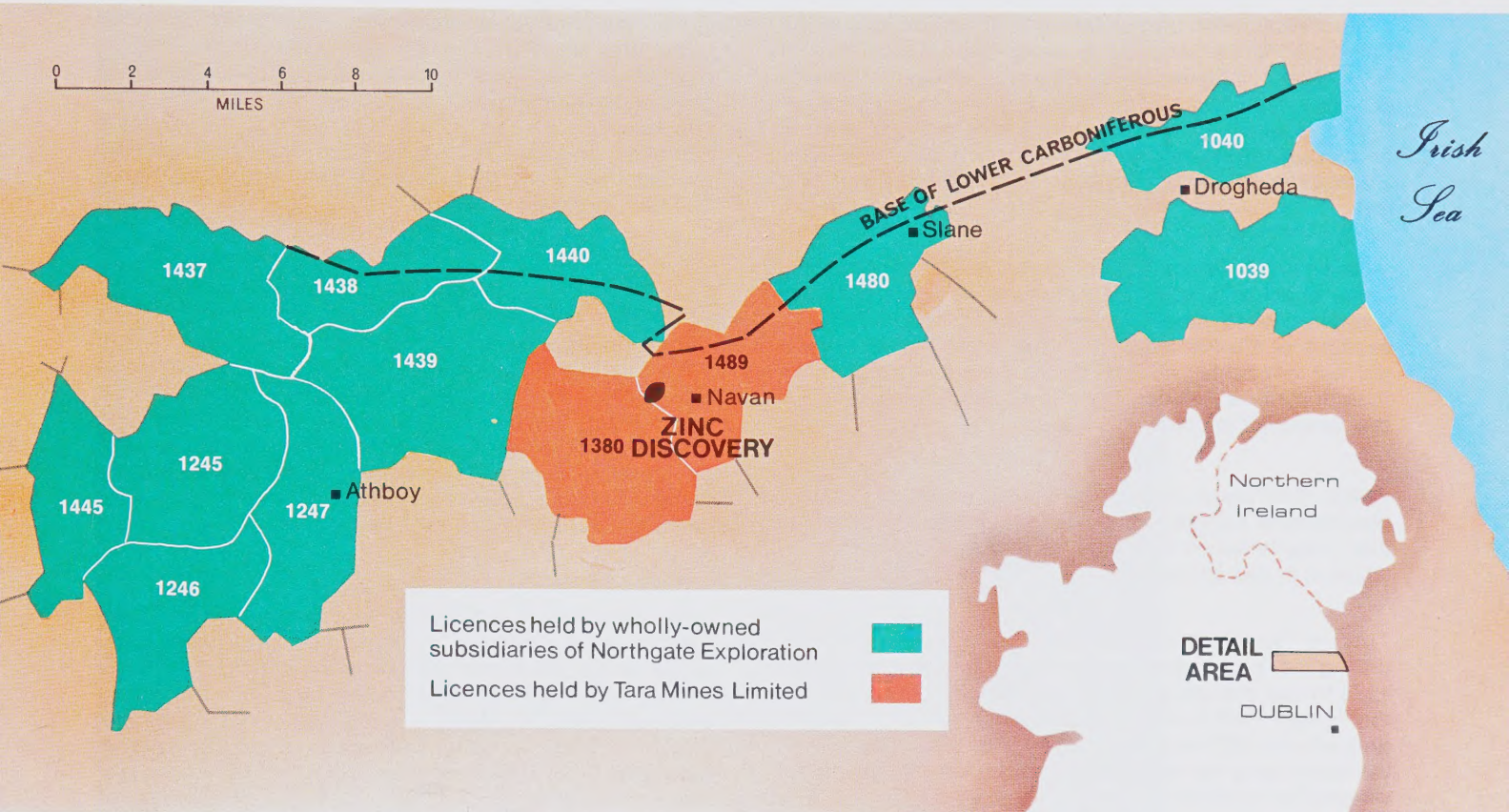
As previously reported, mining and milling operations at the Gortdrum Mine ceased during August and the phase out of personnel at the mine was completed as scheduled. The cessation of operations was due to the exhaustion of all mineable ore.

Operations at the Gortdrum Mine for the approximate eight month period prior to scheduled shut down were much improved over earlier forecasts, with a 10% increase in the total amount of ore treated, the grade of which was also well above prediction resulting in an approximate 18% increase in concentrate production.

Notwithstanding the sharply lower prices received for copper, operations at the Gortdrum Mine resulted in a significant contribution to your Company's consolidated earnings during 1975. This was attributable to the aforementioned grade and tonnage treatment factors resulting in increased concentrate shipments and sales during the period which included 1975 production together with concentrate stocks on hand at January 1, 1975.

The relevant production statistics for 1975 were the treatment of 354,612 tons from which a total of 14,183 tons of concentrate was produced. Concentrate shipments amounted to 17,284 tons. Mercury production for the year totalled 423 flasks. Due to the low market price, no mercury sales were made during 1975.





NAVAN AREA, IRELAND — Map showing the prospecting licences of Northgate's subsidiaries in relation to the licences on which the major zinc-lead deposit was found by Tara Exploration and Development Company Limited late in 1970.

Following termination of operations, virtually all of the mobile equipment has been sold together with certain other equipment and stores. No final decision has yet been taken as to the disposal of the concentrator and mercury extraction plant.

#### Exploration — Ireland

The Company's exploration activities in Ireland were maintained at a high level during 1975 and included extensive diamond drilling, principally concentrated on six specific target areas including the Gortdrum and Tynagh Mine leases.

At the Tatestown zinc-lead prospect in the Navan area about 1.5 miles northwest of the large zinc-lead deposit being readied for a 1977 start-up of production by Tara Mines Limited, sufficient drilling was completed at mid-year to indicate a possible 1.6 million tons grading 6.72%

combined zinc and lead. This included a higher grade zone of approximately 330,000 tons grading 13.36% combined zinc and lead.

Subsequently, an additional 20 diamond drill holes were completed on the Tatestown prospect. The first 11 of these holes tested the main mineralized zone but did not add any substantial additional tonnage of economic grade mineralization. The remainder of the holes were drilled to the north of the zone to test the favourable horizon at depth. All of these have encountered the host rock which is invariably weakly mineralized. Two of the holes encountered mineralization which is considered economically significant, although not of ore grade. Five other drill targets were tested in other licence areas near Navan but no mineralization of economic significance was intersected.

Further work is planned for the Company's extensive licence holdings in the Navan area during 1976.



Other exploration targets tested during 1975 include the Ballymote, Moate and Ballinasloe licence blocks. Ten holes were completed on the Ballymote licence area testing a geochemical anomaly which has coincident geophysical anomalies. All holes encountered chalcopyrite-arsenopyrite-enargite-pyrite mineralization with the best intersection returning an assay of 1.68% copper over 12.0 feet.

Seven holes were put down on the Moate licence block. Three checked a buried geochemical anomaly and encountered weak mineralization including several five-foot sections of 2%-3% lead-zinc. The remaining four holes did not encounter mineralization of major significance though pyrite is well developed over a 200-foot section of reef limestone in one of the holes.

Near Ballinasloe, five holes were completed to test a geochemical anomaly supported by strongly mineralized float. Four holes encountered minor zinc and lead mineralization in reef limestone.

At the Tynagh Mine lease area, a program of diamond drilling was recommenced toward the end of September, 1975 to test the ore potential of the eastern extension of the Tynagh Fault in areas not previously drilled. This is an area about 4,000 feet east of Zone III of the Tynagh Mine, the latter being the most easterly zone currently being developed for production.

During 1975 a total of 10 holes were completed in this area testing a zone of mineralized reef micrite, the first two holes (previously reported) intersecting encouraging grades and thickness of mineralization including 12.0 feet of 8.09% combined zinc and lead in one hole and 40.0 feet of 6.8% combined zinc and lead in a second hole. The subsequent 1975 drilling encountered mineralized reef micrite but only in one hole is the mineralization of economic grade and thickness.

The drilling program was continued in 1976 further to the east including three holes completed during January, two of which intersected varying thicknesses of the mineralized micritic zone while the third hole was at depth of 267 feet in unmineralized micrite. Additional diamond drilling is scheduled along this eastern extension of the Tynagh Fault during the current year.

At Gortdrum, drilling programs took place both within and outside the immediate lease area. Within the lease an assessment program of eleven drill holes was completed, testing favourable situations along the main Gortdrum fault, beneath the Gortdrum Mine and in areas not tested previously. None of these holes intersected mineralization approaching economic grades. Seven holes were drilled along the main structure east of the mine lease. Best intersection is 0.57% copper over 40 feet. An additional four holes were drilled to further test a mineralized area about five miles north-west of the mine area. All four holes intersected weak zinc and lead mineralization.

A recent development in relation to mineral exploration in the Republic of Ireland has been the announcement of new regulations governing prospecting licences. The purpose of the regulations is to increase the rate of exploration activity in Ireland. As the new regulations only came into effect on March 1, 1976, it is too early to evaluate the overall effect, if any, they may have on your company's exploration activities in Ireland.

### **Exploration — Canada**

Exploration activities on the joint venture programs in Nova Scotia and Newfoundland in which your Company has a 40% interest and the remaining 60% held by associated Westfield Minerals Limited were continued during the year. The 1975 program in Nova Scotia encompassed 12 separate areas with an aggregate size of 62 square miles. The main exploration target was economic base metal mineralization in Lower Carboniferous limestones.

Exploration carried out included reconnaissance and detail geochemical surveys, geological mapping and prospecting, various techniques of geophysical surveying, together with 1,519 feet of core diamond drilling in 10 holes testing two of the properties. Certain properties were dropped and seven, covering a combined area of approximately 27.5 square miles, were retained for further work during 1976. Drilling targets have been defined for three of these properties.

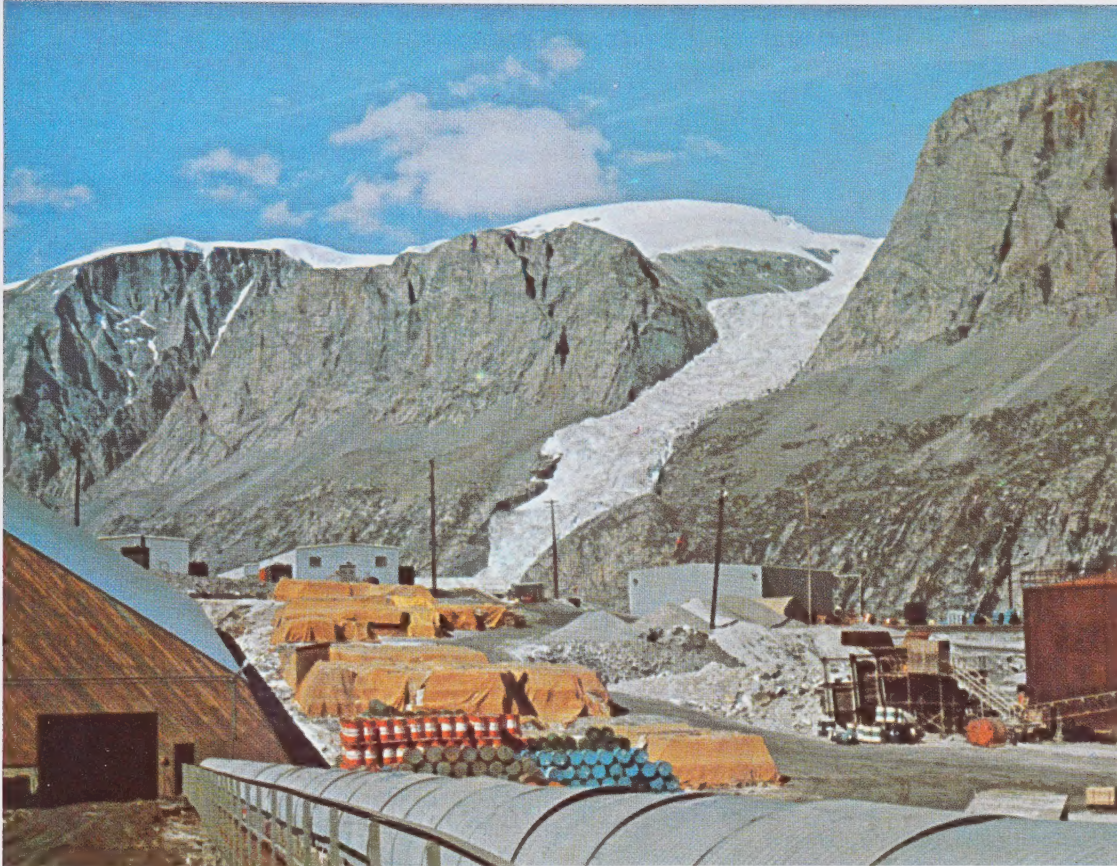
Work in Newfoundland chiefly consisted of detailed soil sampling and geological mapping. This program centres on the approximate 600 square miles of ground held by Reid Newfoundland Corporation with which agreement in principle was reached for joint exploration. This exploration program is similarly directed toward the investigation of Carboniferous limestones for base metals.

### **Exploration — Alaska, U.S.A.**

In the State of Alaska, your Company and Westfield Minerals Limited entered into a joint venture undertaking involving offshore gold placer concessions near Nome. An Alaskan company, Westpark Exploration Company, was incorporated for this project and your Company and Westfield each hold a 33% equity interest. Northgate and Westfield are jointly funding this project in exchange for their combined 66% interest. As previously reported, the originally planned offshore drilling program from the ice for the 1974-75 season was rescheduled for the 1975-76 period.

During 1975, option agreements were concluded in respect of on shore gold placer claims and offshore prospecting permits contiguous to the original "Auric Mining Lease". A limited sampling program was carried out during the latter part of August on the Alaskan properties, specifically bulk sampling of the beach sands on Offshore Permit No. 48383. Of a total 12 samples, five showed





This view of the Black Angel Mine in West Greenland of Greenex A/S the wholly owned subsidiary of **Vestgron Mines Limited**, shows the concentrate storage building at the left and the conveyorway to the shiploader.



Minesite, Tara Mines Limited, Navan, County Meath, Ireland. This large zinc-lead mine is being prepared for production scheduled 1977 and when in full operation will be the largest zinc mine in Europe. Capital cost is estimated at \$150 million. Northgate owns approximately 10% of the parent company, Tara Exploration and Development Company Limited.



traces of gold and four contained visible gold. Drilling will be undertaken in this area during the 1976 summer season.

Drilling from the ice to test the offshore concession commenced during February, 1976 and the initial phase of the program consisting of some 65 holes had been completed to March 9th. These holes have been drilled at variable spacing (50'-200') on five sections extending up to 2,500 feet from shore. Numerous samples have been assembled and air-freighted to a laboratory for quantitative tests and assaying.

The results of these tests will provide essential data for the planning of the additional drilling scheduled for the offshore placer concessions.

Independent of the Westpark project, your Company, in joint venture with Westfield Minerals Limited and Anglo United Development Corporation Limited, is acquiring additional claims in Alaska. The principal exploration targets are base metals, precious metals and uranium.

#### General Exploration

Exploration effort was considerably expanded during 1975, both in terms of increased expenditure and broadened geographic distribution. In addition to carrying out the exploration programs specifically referred to in this report your Company is continually reviewing and assessing various mining properties and exploration proposals that are brought to its attention. Exploration expenditures for 1975, including contribution to joint ventures, amounted to \$1,034,000 compared with \$594,000 in the previous year. The tentative exploration budget for 1976 is \$1,200,000.

#### Affiliated Companies

In addition to its direct exploration activities, your Company has a widespread exposure to exploration through its affiliated companies which are active in Canada, U.S.A., Australia and Ireland. These principal affiliated companies and the respective equity interest held by Northgate are: **Westfield Minerals Limited** (45%), **Whim Creek Consolidated N. L.** (32%) and **Anglo United Development Corporation Limited** (24%). The combined annual expenditures of these three affiliated companies for exploration is currently at the rate of approximately \$1 million.

The current and planned activities of principal interest with respect to these three affiliated companies are described in brief outline on pages 15 to 17 of this Report.

#### Other Investments

Your Company's investment in shares of the three principal affiliated companies (Westfield, Whim Creek and An-

glo United) has a carrying value of \$5,708,000 and a quoted market value of \$6,673,000 as at December 31, 1975.

Other substantial investments of the Company include 638,341 shares of Tara Exploration and Development Company Limited, 220,000 shares of Vestgron Mines Limited and 129,032 shares of W. R. Grace & Co. The combined quoted market value of these investment shareholdings at December 31, 1975 was \$15 million. Subsequent to the year end, the W. R. Grace & Co. shares were sold on the open market and the proceeds added to the Company's working capital.

The following comments are pertinent to these two major investment holdings of your Company:

#### Tara Exploration and Development Company Limited

Tara Mines Limited (subsidiary of Tara Exploration and Development Company Limited) announced on September 19, 1975 that the Minister for Industry and Commerce, the Minister for Finance and the company had formally executed a State Mining Lease in respect of Tara's Navan zinc-lead mining property, and that receipt of the lease would enable the company to complete arrangements for the senior financing required to develop the Navan property. Both surface construction and underground development are now in progress.

The estimated capital cost of the project is \$150 million which includes expenditures to date of close to \$60 million. The mine and concentrator, as designed, will produce about 500,000 tons of zinc and lead concentrates per annum, necessitating the treatment of approximately 2.5 million tons of ore annually. Production start-up is tentatively scheduled in the second quarter of 1977. When in full production, the Tara Mine will be Europe's largest zinc producer and ranking among the major zinc-lead mines in the world.

Under the terms of the lease which extends for a period of 25 years with provisions for renewal, the Minister for Industry and Commerce (on behalf of the Irish Government) will have a 25% equity participation in Tara Mines Limited, together with royalty payments, calculated on pre-tax income, of 4.5%. In addition, the company will be subject to normal corporate income taxes of approximately 50%.

Northgate's shareholding in Tara Exploration and Development Company Limited is equal to approximately 9.9% of the issued and outstanding shares. Other major corporate shareholders in Tara are Noranda Mines Limited (19.93%), Cominco Ltd. (17.43%) and Charter Consolidated (10.75%).

#### Vestgron Mines Limited

Vestgron Mines Limited, 62% owned by Cominco Limited, reported net earnings for 1975 of \$15,829,000 or



\$3.74 per share, against \$10,336,000 or \$2.44 a share for 1974. Earnings before interest charges, depreciation and depletion were \$24,980,000.

Earnings are obtained from the mining operations at the Black Angel Mine of the company's wholly-owned subsidiary, Greenex A/S, Western Greenland. Revenue in 1975 of \$50,545,000 was from the sale of 160,336 metric tons of zinc concentrate and 34,666 tons of lead concentrate. Concentrate production in 1975 amounted to 152,500 tons of zinc concentrate and 31,800 tons of lead concentrate from the treatment of 590,200 metric tons of ore grading 15.4% zinc and 4.8% lead. Ore reserves at December 31, 1975 totalled 3,995,000 metric tons assaying 14.10% zinc, 4.00% lead and 25 grams silver per ton, compared with 3,442,000 metric tons of 15.70% zinc, 5.10% lead and 1.00 oz. silver per ton at December 31, 1974.

Vestgron reported that the underground drift to explore the Cover Zone of the Black Angel Mine was completed just before year end, adding that two million tons of new ore were located. The company also reported a promising mineralized area in the Greenex exploration concession had been discovered and further exploration is planned for this year.

Your Company's direct holdings in Vestgron Mines Limited of 220,000 shares represents approximately 5% of the

latter's issued and outstanding capital. As Northgate owns approximately 45% of Westfield Minerals Limited which in turn owns 414,500 shares of Vestgron, your Company's combined direct and indirect ownership of Vestgron approximates 406,530 shares or about 9.6% of the latter company.

#### Organization

The Board of Directors is pleased to announce the appointment during the year of Mr. A. H. Meldrum to the position of Vice-President of Exploration and Mr. Peter McAleer as a Vice-President. These appointments were effective on April 25, 1975.

The Board of Directors wishes to express its appreciation for the effort and co-operation of management, staff and all employees throughout the year.

On behalf of the Board of Directors,

*Pat. J. Hughes.*

President

March 31st, 1976



*Tree nursery stock frames this picture of the Development shaft headframe at the Tara Mine, County Meath, Ireland.*





Centre in this picture is the shaft headframe and hoist at The Tynagh Mine, County Galway, Ireland. The main concentrator partially shown at the right and a portion of the dense media separation plant at the extreme left.

## REVIEW OF OPERATIONS

### TYNAGH MINE

During the year a total of 648,477 tons of ore was treated at an average rate of approximately 1,800 tons per operating day, substantially all of which came from the underground Zone II reserves. This compares with 667,119 tons mined and treated in 1974.

The approximate 10% shortfall from the planned mining of 720,000 tons during 1975 was mainly caused by ore handling difficulties and mechanical delays in the underground section, as well as by the reduction in overtime work which was introduced in September.

This shortfall was partially compensated by the higher than predicted head grade in zinc of the ore mined which together with the improved recovery of zinc resulted in concentrate production closely approximating forecast at a total of 78,036 tons.

Commencing in 1974, all ore is preconcentrated in the dense media plant before treatment in the concentrator.

The grade of the 648,477 tons of ore fed to the dense media plant was:

Lead %	Zinc %	Copper %	Silver ozs/ton
3.94	4.27	0.19	1.64

This compares with the following average grade of the 667,119 tons treated in 1974:

Lead %	Zinc %	Copper %	Silver ozs/ton
4.94	4.38	0.50	2.56

The following is a summary of concentrate production for 1975 with comparative figures for 1974:

	1975	1974
Tons of lead concentrate	29,734	38,084
Tons of zinc concentrate	41,988	42,511
Tons of bulk concentrate	4,277	4,849
Tons of copper concentrate	2,037	7,038
Totals	78,036	92,482



The reduction in concentrate production in 1975 as compared to 1974 is essentially a factor of the lower grade of ore treated. The schedule of operations for 1976 assumes the treatment of 675,000 tons of ore and the anticipated production of 71,000 tons of concentrate including approximately 3,800 tons of copper concentrate.

Lead concentrate produced was roughly in line with the 10% reduction from forecast of the tons treated. However, there was a compensating increase in the production of zinc concentrate with a moderate reduction in bulk (lead-zinc) concentrate. A notable feature of the 1975 production was the lower copper content of the ore which resulted in a reduced production of copper concentrate from an expected 4,000 tons to 2,037 tons.

The grades of the lead and zinc concentrates produced during 1975 were slightly higher than forecast but in the case of the copper and bulk concentrates the grades were moderately lower. Metallurgical recoveries of the metals from the ore treated during 1975 and the comparative figures for 1974 were:

	Recovery			
	Lead %	Zinc %	Copper %	Silver %
1975	87.8	80.4	70.2	66.0
1974	86.2	77.8	76.8	75.0

The approximate total of payable metals contained in concentrates sold during 1975 were 44.0 million pounds of lead, 34.7 million pounds of zinc, 0.5 million pounds of copper and 584,000 ounces of silver. These figures do not include the metals contained in the copper concentrate produced during the year.

The high content of copper in the ore treated during 1974 required a copper-lead separation to reduce the copper content in lead concentrates to smelter specifications of existing contracts. An improved method of separating copper minerals from lead sulphide ore was developed

during 1974 resulting in the production that year of 7,038 tons of copper concentrate which was stockpiled for possible future sale or blending.

As previously reported, a trial shipment of 1,225 tons of copper concentrate was sold during the third quarter of 1975 and arrangements have been made for the sale of a further 2,750 tons of this hitherto unsaleable material during 1976.

Direct operating costs per ton of ore mined during 1975 increased 29% to \$13.78 compared with \$10.69 per ton in 1974.

## Ore Reserves

The underground mineable ore reserves are designated as Zone II which is located beneath and adjacent to the boundary of the open pit, and Zone III which is approximately 600 feet east of the open pit. During the year, development headings on two levels were advanced from the underground workings into the Zone III area and by year end sufficient detailed diamond drilling had been completed to enable the reclassification of some of the formerly designated potential ore into proven reserves.

In addition, further stope development and diamond drilling was carried out in the Zone II area and a recalculation of the ore reserves showed a net loss of approximately 112,000 tons. The underground reserves at December 31, 1975 are:

Location	Tons	Grade			
		Lead %	Zinc %	Copper %	Silver ozs/ton
Zone II	1,660,000 <sup>(1)</sup>	4.06	3.23	0.29	1.48
Zone III	760,000 <sup>(2)</sup>	2.44	4.45	0.05	0.45
Total	2,420,000	3.55	3.61	0.21	1.16

(1) Includes a dilution allowance of 5% waste at zero grade.

(2) Includes a dilution allowance of 10% waste at zero grade because higher dilution in the mining of ore from this zone is anticipated.

Underground at the Tynagh Mine.





The balance of Zone III, not included in the foregoing reserves, is classified as potential ore. Analysis of previous work indicate the following approximate tonnage and grade of mineralized material which includes a dilution allowance of 10% waste at zero grade:

Tons	Grade			
	Lead %	Zinc %	Copper %	Silver ozs/ton
1,090,000	4.41	4.50	0.31	0.77

*The mercury extraction plant and main concentrator, Gortdrum Mine, Ireland.*



## GORTDRUM MINE

Mining and milling operations ceased as scheduled during August due to the exhaustion of all mineable ore from the open pit. Operations at the open pit finished on August 12. The concentrator worked on a seven day per week basis until the shutdown on August 25 while the mercury plant operations ceased on July 25.

Mine operating results, despite the abbreviated production period of slightly less than eight months, compared very favourably with those of the full 1974 operating year, due to the higher grade of ore treated, improved metallurgical recoveries and the resultant increase in concentrate production.

The following are the pertinent operating and production data for the year together with comparative figures for 1974:

	1975 (33 weeks)	1974
Tons of ore milled	354,612	491,382
Grade		
Copper — %	2.01	1.32
Silver — ozs/ton	1.36	0.95
Metallurgical recoveries		
Copper	85.8%	84.1%
Silver	85.4%	83.2%
Concentrates produced — tons	14,183	13,288
Mercury recovered — flasks	423	775
Concentrates sold — tons	17,284	12,112

Due to the low market price, no sales of mercury were made during the year. The proceeds from concentrates sold in 1975 which included 1975 production together with the concentrate stocks at the beginning of the year, amounted to \$7,487,000 and operating income was \$761,000. The increment to income representing the profit on the disposal of fixed assets amounted to \$575,000.

After provision for Government royalty, amortization and other charges, net profit of Gortdrum Mines (Ireland) Limited for the year amounted to \$1,519,000 as compared with \$358,385 in 1974.

Payable metals contained in concentrates shipped during the year amounted to approximately 14.5 million pounds of copper and 469,000 ounces of silver. This compares with 9.9 million pounds of copper and 320,000 ounces of silver contained in concentrates shipped in 1974.

## General

Direct operating costs per ton of ore treated, which includes mining, milling, mine services, mine administration, transportation and loading of concentrates, head office costs in Ireland, exploration costs in the mine area and including costs in connection with the closing of the mine, amounted to \$14.05 as compared to \$12.09 in 1974.



# AFFILIATED COMPANIES

## ANGLO UNITED DEVELOPMENT CORPORATION LIMITED

The major emphasis of the company exploration in the 1974-1975 fiscal year was in connection with the group of 53 prospecting licences in the Republic of Ireland held under the working option agreement from La Societe Miniere et Metallurgique de Penarroya ("Penarroya") dated 1st July, 1971.

As of 1st November, 1975 the foregoing agreement was superceded by a joint venture agreement between the company's wholly owned subsidiary, Munster Base Metals Limited ("Munster"), Societe Miniere et Metallurgique de Penarroya and Preussag Aktiengesellschaft Metall ("Preussag") involving the original 53 prospecting licences and seven additional prospecting licences assigned to the joint venture by Munster.

The financial obligation of the company in respect of the initial agreement dated 1st July, 1971 whereby it was responsible for 100% of the exploration and related expenses is materially changed by the superceding agreement under the terms of which each of the parties will have an initial one-third participating interest in connection with the contemplated exploration programmes relating to the 60 prospecting licences now constituting the joint venture.

Certain initial exploration programmes were duly approved by the Management Committee during January, 1976 and it is anticipated that these and other recommended exploration programmes will be carried out on selected areas during the 1976 calendar year.

### Exploration in Ireland

Exploration on certain areas of the group of 53 prospecting licences within the 1971 working option agreement with Penarroya was the main activity of the Company during the 1974-1975 fiscal period. This work was carried out by the company's wholly owned subsidiary, Munster Base Metals Limited, and consisted principally of prospecting, geological mapping and geochemical surveys. In addition, diamond drilling was carried out in the Mallow licence area including follow-up drilling of eight holes for a total of 2,411 feet in the area of the known copper-silver deposit.

In the area of the Tullacondra copper-silver deposit a further eight holes totalling 2,411 feet were completed. The holes are mostly confined to an area immediately south-east of the 1973 drilling. Mineralization was intersected in four of the holes, including holes 34 and 35 located approximately 600 feet apart, and hole 37, 100 feet south of 34. The assays of these four holes are as follows:

Hole No.	From	To	Width of Intersection Feet	Copper %	Silver Ozs/Ton
32	235'	245'	10	0.94	0.27
34	254'	269'	15	0.85	6.80
35	134'	157'	23	0.63	4.50
37	224'	269'	40	0.69	1.58

Assay results of these four holes, three of which were previously reported, show some intersections of erratically high silver values ranging up to 13.7 ounces of silver per ton over a five foot width.

A major exploration programme for scheelite (tungsten) was carried out on a group of 15 licences in the Connemara area (held jointly with other companies) during the year. Significant scheelite occurrences were found and Munster is currently negotiating an agreement with another company which wishes to continue exploration on this ground under joint venture.

Munster also conducted a survey on its Clontibret licence during the year and further work is planned. Drilling many years ago by former operators reportedly encountered interesting antimony and associated gold values.

### Exploration in Canada

The company's Camp Lake gold property consisting of 20 claims or approximately 1,000 acres in the Yellowknife area, Northwest Territories, is held under a 21-year mining lease.

Exploration carried out during the 1974 field season correlated with previous work provided a basis for a recalculation of drill-indicated reserves for the No. 1 and No. 2 Zones and the 'B' and 'C' veins of the South Zone, now estimated at 43,750 tons averaging 0.46 ounces of gold per ton.

In these calculations, mining width is calculated by adding 1.0 feet (at assay grade) to the true width of the intersection and minimum mining width is 4.0 feet. Grade of blocks containing high gold values are cut to 1.5 times the average grade of the zone or vein, a procedure used to calculate reserves within developed portions of two producing mines in the district. Single drill intersections in the 'D', 'E' and 'F' veins of the South Zone were not considered in calculating the reserves.

The company's firm of consultants recommended that underground exploration of these three known main zones be undertaken to determine grade, tonnage and ground conditions as a more positive approach, particularly with respect to the complex South Zone.

A feasibility study was carried out by Bacon & Crowhurst Ltd., consulting engineers, to consider the most economical and flexible method of underground access to the more favourable zones. These studies concluded the most appropriate design would involve a long decline (with branches) at a 15% grade for a total decline distance of 3,889 feet. The estimated cost of this programme is \$1,151,730 and does not include any provision for underground diamond drilling.

The decision to consider the implementation of this recommended underground programme will await an improvement in the price of gold to an acceptable and sustained level.



Anglo United's working capital at October 31, 1975 amounted to \$93,533. This is exclusive of investments consisting of 246,333 shares of Northgate held by Anglo United and its wholly owned subsidiary. Subsequent to the 1975 fiscal year end, 600,000 common shares were sold under private placement to Northgate for \$400,000 cash. The proceeds were applied to Anglo United's working capital.

At December 31, 1975 Northgate's interest in Anglo United was 1,689,500 shares equal to approximately 24% of the issued and outstanding capital.

## **WESTFIELD MINERALS LIMITED**

Both directly, and indirectly through affiliated companies, Westfield has widespread exploration interests in Canada, U.S.A., Australia and Ireland. In addition, through its shareholdings in Vestgron Mines Limited and Northgate Exploration Limited, Westfield is participating in base metal mining operations in Western Greenland and Ireland.

During 1975 Westfield sold its Coniaurum Property and related surface rights to Pamour Porcupine Mines, Limited for \$255,000 cash. As part of the sale agreement, Westfield is entitled to a 25% net profit carried interest on all production from the mining rights during the term of the agreement, such term being from January 1, 1975 to December 31, 2024. No income was earned under this agreement during the 1975 year. Westfield is also entitled to receive one-third of the net proceeds after expenses from the sale of the surface rights to the property.

### **General Exploration**

In addition to its widespread exposure to exploration through affiliated companies, Westfield is also active on its own account and in joint venture with other companies. During 1974 and 1975, Westfield has participated in a joint venture exploration program with Northgate in the Maritime provinces involving tracts in Nova Scotia and through an agreement with Reid Newfoundland Corporation, in a similar program involving an area of approximately 600 square miles in Newfoundland. This program is directed toward the investigation of Carboniferous limestones for base metals. Westfield has a 60% participating interest in this joint venture with Northgate.

Westfield is also participating in a joint venture undertaking with Northgate in the State of Alaska, U.S.A., involving certain on shore and offshore gold placer prospects near Nome. An Alaskan company, Westpark Exploration Company was incorporated for this project which is being funded equally by Westfield and Northgate. Westfield and Northgate each hold a 33% equity in Westpark.

Reference is made to page 8 of this Report for further details of the foregoing joint ventures with Northgate.

Westfield's exploration expenditures during 1975, including advances to an associated company, amounted to approximately \$168,000.

### **Investments**

Westfield's principal investments consist of the following:

Northgate Exploration	—	936,619 shares (13.6%)
Vestgron Mines Limited	—	414,500 shares (9.8%)
Whim Creek Consolidated	—	2,500,000 shares (22.7%)

The quoted market value of these investments as at December 31, 1975 was approximately \$9 million. Subsequently, at March 10, 1976 the combined quoted market value of Westfield's principal investments had increased to approximately \$12.6 million.

Westfield's working capital at December 31, 1975 was \$1,329,336. The major portion of this working capital consists of cash, including short term securities and deposits.

Reference is made to the appended corporate profile for current information regarding Whim Creek Consolidated N.L. and to the brief data contained on page 10 of this report regarding Vestgron Mines Limited.

At December 31, 1975 Northgate's interest in Westfield Minerals Limited was 2,803,075 shares equal to approximately 45% of the issued and outstanding capital.

## **WHIM CREEK CONSOLIDATED N.L.**

Whim Creek is active, on its own account and in conjunction with other companies, in exploration for commercial mining properties, principally in the West Pilbara region of Western Australia in the vicinity of Roebourne, and in Queensland and New South Wales in the eastern half of Australia.

Exploration expenditures during 1975 amounted to \$Aust. 429,912 and working capital at December 31, 1975 was \$Aust. 1,173,451. The major portion of working capital consists of cash including short term investments. The current currency exchange rate for the Australian dollar is approximately \$1.23 Canadian.

At year end, 1975 Whim Creek and its subsidiary companies held a total of 244 properties in Western Australia and Queensland covering a combined area of approximately 73,200 acres. These include the principal copper prospects known as the Whim Creek and Whundo properties and the various nickel prospects, Mt. Sholl, Munni Munni, Roebourne and Kanowna.

Exploration of the various nickel prospects, which includes the Mt. Sholl B2 nickel-copper deposit, was sharply reduced during 1975 compared with previous years. These properties have reached the stage where further exploration would require substantial expenditure on diamond drilling. While current economic conditions did not



justify such programs, the Company recognizes these properties have good long term potential and are maintaining the properties in good standing.

This is in keeping with the Company's current policy, placing greater emphasis to programs which could lead to cash flow operations at an early stage and new exploration to be directed at mineral deposits suitable for low cost mining.

During 1975, feasibility studies on the economics of mining a modest deposit of direct shipping grade copper ore from Whundo were finalized. On the basis of these studies the Company has decided to commence open pit mining in the first half of 1976. The direct shipping grade ore, consisting of approximately 6,000 tons of 24% copper, and the intermediate grade ore will be stockpiled. The timing of sale of direct shipping grade ore from stockpiles will be dependent on copper prices.

Additional reserves of secondary copper mineralization (about 53,000 tons of 7.4% copper) was defined by detailed drilling at West Whundo. An acceptable concentrate can be produced from this intermediate grade material by flotation. The economics of mining and treating this mineralization will be studied after completion of mining the high grade copper at Whundo.

Alternative processes suitable for an operation on the Whim Creek copper deposit were investigated as planned. Earlier studies indicated that an operation by open pit mining with processing by leaching was technically feasible. By contracting the mining, and leaching the oxide ore in large impermeable earthen vats, it seems possible to substantially reduce the previously indicated capital costs and improve the cash flow. At current copper prices such an operation would not be economically attractive, but with prices in the range of U.S. 65¢-75¢ per lb. or better, a profitable operation is possible.

As previously reported, reserves extractable by open pit mining were calculated at 1,500,000 short tons grading an average of 2.31% copper with cut-off grades varying from 0.3% to 1.0% copper. Using a lower cut-off grade of 0.3%, the reserves are estimated at 2,800,000 tons averaging 1.62% copper.

At December 31, 1975 Northgate's direct interest in Whim Creek Consolidated was 3,500,000 shares equal to approximately 32% of the issued and outstanding capital. Northgate's combined direct and indirect ownership of Whim Creek is approximately 42%.



**Above:** The Black Angel Mine at Marmorilik, Greenland, operated by Vestgron's subsidiary, Greenex A/S, is linked by a pair of mile-long aerial tramways to the concentrator across the fjord. The tram shown carries crushed ore at the rate of 110 metric tons per hour to the 1,650 tons per day concentrator.



# Northgate Exploration Limited

(Incorporated under the laws of Ontario)  
and its wholly owned subsidiary companies

## Consolidated Balance Sheet — December 31, 1975 and 1974

Expressed in Canadian dollars

### ASSETS

#### Current Assets

Cash, including short term securities and deposits .....  
Smelter settlements outstanding at estimated net realizable value .....  
Concentrates and metal on hand .....  
Supplies at cost .....  
Accounts receivable and prepaid expenses .....

#### Investments in Associated and Other Companies

Associated companies  
    Shares (note 2) .....  
    Advances .....  
Other listed shares at cost less amounts written off (quoted market value, 1975, \$15,498,000; 1974, \$13,962,000) (note 3) .....  
Other shares and advances at cost less amounts written off .....  
  
Less provision for decline in value .....

#### Fixed Assets

Buildings, machinery and equipment at cost .....  
Land in Ireland at cost .....  
Mining claims in Canada at nominal value .....  
  
Less accumulated depreciation .....

#### Other Assets and Deferred Charges

Cash deposited as collateral for guarantee (note 6) .....  
Preproduction expenditures less amortization .....  
Underground development expenditures less amortization .....  
Other deferred charges .....

### LIABILITIES AND SHAREHOLDERS' EQUITY

#### Current Liabilities

Bank advances .....  
Accounts payable and accrued liabilities .....  
Government royalty payable .....  
Income taxes payable (note 4) .....

Future and Deferred Income Taxes (note 4) .....

#### Shareholders' Equity

Capital stock (note 5)  
    Authorized — 10,000,000 shares of \$1 each  
    Issued — 6,891,699 shares .....  
Contributed surplus .....  
Retained earnings .....

Approved by the Board  
See accompanying notes

M. K. PICKARD, Director

W. F. JAMES, Director



	1975	1974
.....	\$16,166,000	\$11,804,000
.....	4,552,000	4,126,000
.....	1,845,000	2,902,000
.....	940,000	1,844,000
.....	658,000	743,000
	<u>24,161,000</u>	<u>21,419,000</u>
.....	6,021,000	5,900,000
.....	424,000	424,000
.....	17,279,000	17,009,000
.....	38,000	311,000
	<u>23,762,000</u>	<u>23,644,000</u>
.....	1,490,000	1,250,000
	<u>22,272,000</u>	<u>22,394,000</u>
.....	14,999,000	22,038,000
.....	661,000	1,194,000
.....	1,000	1,000
	<u>15,661,000</u>	<u>23,233,000</u>
.....	9,946,000	15,131,000
	<u>5,715,000</u>	<u>8,102,000</u>
.....	2,794,000	2,724,000
.....		131,000
.....	2,110,000	2,977,000
.....	34,000	34,000
	<u>4,938,000</u>	<u>5,866,000</u>
	<u>\$57,086,000</u>	<u>\$57,781,000</u>
	1975	1974
.....	\$ 309,000	\$ 251,000
.....	3,052,000	3,346,000
.....	805,000	1,005,000
.....	2,128,000	309,000
	<u>6,294,000</u>	<u>4,911,000</u>
.....	1,754,000	3,265,000
.....	6,892,000	6,892,000
.....	6,849,000	6,849,000
.....	35,297,000	35,864,000
	<u>49,038,000</u>	<u>49,605,000</u>
	<u>\$57,086,000</u>	<u>\$57,781,000</u>

## Auditors' Report

To the Shareholders of  
Northgate Exploration Limited

We have examined the consolidated balance sheet of Northgate Exploration Limited and its wholly owned subsidiary companies as at December 31, 1975 and 1974 and the consolidated statements of income, retained earnings, contributed surplus and changes in financial position for the years then ended. Our examination of the financial statements of Northgate Exploration Limited (the parent company) included a general review of the accounting procedures and such tests of accounting records and other supporting evidence as we considered necessary in the circumstances. With respect to the subsidiary companies of which we are not the auditors, we have carried out such enquiries and examination as we considered necessary in order to rely for purposes of consolidation on the reports of their auditors.

In our opinion these consolidated financial statements present fairly the financial position of the companies as at December 31, 1975 and 1974 and the results of their operations and the changes in their financial position for the years then ended, in accordance with generally accepted accounting principles applied on a consistent basis.

THORNE RIDDELL & CO.  
Chartered Accountants

Toronto, Canada  
February 12, 1976



## Consolidated Statement of Income

YEARS ENDED DECEMBER 31, 1975 and 1974

Expressed in Canadian dollars

Revenue	1975	1974
Metals .....	\$33,798,000	\$40,184,000
Deduct shipping, smelting and marketing expenses .....	13,380,000	14,239,000
	<u>20,418,000</u>	<u>25,945,000</u>
 <b>Operating expenses</b>		
Operating expenses other than items set out below .....	15,026,000	12,771,000
Administrative and general expenses .....	1,348,000	1,543,000
Government royalty .....	19,000	911,000
Depreciation .....	2,357,000	3,083,000
Amortization of preproduction and other expenditures .....	998,000	1,172,000
	<u>19,748,000</u>	<u>19,480,000</u>
	670,000	6,465,000
Profit on disposal of fixed assets .....	<u>584,000</u>	
	1,254,000	6,465,000
Exploration .....	<u>1,034,000</u>	<u>594,000</u>
	220,000	5,871,000
Equity in income (loss) of associated companies (note 2) .....	(279,000)	(80,000)
Interest, dividends and sundry income .....	1,796,000	1,635,000
Provision for decline in value of investments .....	<u>(240,000)</u>	
Income before income taxes .....	1,497,000	7,426,000
Income taxes (note 4) .....	<u>341,000</u>	<u>3,400,000</u>
<b>Net income</b> .....	<u>\$ 1,156,000</u>	<u>\$ 4,026,000</u>
 <b>Earnings per share</b> (on weighted average basis) .....	 \$0.17	 \$0.61



## Consolidated Statement of Retained Earnings

YEARS ENDED DECEMBER 31, 1975 and 1974

Expressed in Canadian dollars

	1975	1974
Balance at beginning of year .....	\$35,864,000	\$35,897,000
Net income .....	1,156,000	4,026,000
	<u>37,020,000</u>	<u>39,923,000</u>
Dividends paid — U.S. 25¢ per share (1974, 65¢ per share) .....	1,723,000	4,059,000
Balance at end of year .....	<u>\$35,297,000</u>	<u>\$35,864,000</u>

## Consolidated Statement of Contributed Surplus

YEARS ENDED DECEMBER 31, 1975 and 1974

Expressed in Canadian dollars

	1975	1974
Balance at beginning of year .....	\$ 6,849,000	\$ 3,187,000
Premium on shares issued during the year		
Stock option plan .....		462,000
Investments .....		3,200,000
Balance at end of year .....	<u>\$ 6,849,000</u>	<u>\$ 6,849,000</u>

## Consolidated Statement of Changes in Financial Position

YEARS ENDED DECEMBER 31, 1975 and 1974

Expressed in Canadian dollars

	1975	1974
<b>Working capital derived from</b>		
Operations .....	\$ 3,519,000	\$11,626,000
Shares issued under the company's Stock Option Plan .....		561,000
Shares issued in consideration for investments .....		4,000,000
Disposal of fixed assets .....	402,000	
Other items .....	273,000	318,000
	<u>4,194,000</u>	<u>16,505,000</u>
<b>Working capital applied to</b>		
Investments .....	670,000	4,128,000
Additions to fixed assets (net) .....	372,000	1,043,000
Dividends paid .....	1,723,000	4,059,000
Cash deposited as collateral for guarantee .....	70,000	2,724,000
	<u>2,835,000</u>	<u>11,954,000</u>
Increase in working capital .....	1,359,000	4,551,000
Working capital at beginning of year .....	16,508,000	11,957,000
Working capital at end of year .....	<u>\$17,867,000</u>	<u>\$16,508,000</u>



# Notes to Consolidated Financial Statements

YEARS ENDED DECEMBER 31, 1975 and 1974

Expressed in Canadian dollars

## 1. Summary of Significant Accounting Policies

### (a) Principles of consolidation

- (i) The consolidated financial statements include the accounts of all wholly owned subsidiary companies; the more significant subsidiaries are:

Irish Base Metals Limited  
Gortdrum Mines (Ireland) Limited

- (ii) The company accounts for its investment in associated companies on the equity basis. Under the equity basis, the company's equity in the net income or loss of the associated companies is reflected in the consolidated statement of income and an adjustment is made to the value at which the investment is carried in the consolidated balance sheet (note 2).

### (b) Currency conversion

Currency balances other than in Canadian dollars have been converted to Canadian dollars as follows:

- (i) Smelter settlements outstanding and concentrates and metal on hand at rates of exchange estimated at time of settlement.
- (ii) Other current assets and liabilities at rates of exchange which approximate the rates at December 31, 1975 and 1974.
- (iii) Fixed assets and deferred charges, and the related depreciation and amortization charged to income and investments, at approximate rates prevailing when funds for the expenditures were provided.
- (iv) Operating accounts other than depreciation and amortization at the average rate of exchange prevailing during each period.

### (c) Concentrates and metal on hand

Concentrates and metal on hand, in accordance with accounting practices established in prior years, have been valued as follows:

	1975	1974
Irish Base Metals Limited, at estimated net realizable value .....	\$1,804,000	\$1,595,000
Gortdrum Mines (Ireland) Limited, at the lower of cost and estimated net realizable value .....	41,000	1,307,000
	<u>\$1,845,000</u>	<u>\$2,902,000</u>

### (d) Depreciation and amortization

Depreciation of fixed assets has been recorded at various rates so as to charge the cost to income over the shorter of the expected useful lives of the assets or the life of the estimated ore reserves.

Preproduction expenditures have been amortized over the life of the open pit mine and underground development expenditures are being amortized over the estimated life of the underground mine.

### (e) Exploration

The company and consolidated subsidiaries charge exploration expenditures to income in the period in which incurred. Non-producing associated mining companies defer exploration and administrative expenditures as set out in note 2.

## 2. Associated Companies

The investment in shares of associated companies is carried on the equity basis:

	1975		1974	
	% of shares outstanding	Carrying value	% of shares outstanding	Carrying value
Westfield Minerals Limited .....	45%	\$3,540,000	45%	\$3,425,000
Whim Creek Consolidated N.L. ....	32%	1,144,000	32%	1,538,000
Anglo United Development Corporation Limited .....	24%	1,024,000	17%	624,000
Smelter Corporation of Ireland Limited .....	70%	313,000	70%	313,000
		<u>\$6,021,000</u>		<u>\$5,900,000</u>



The company's equity in the underlying net tangible assets of associated companies is reconciled to the carrying value of the investment, on the equity basis as follows:

	1975	1974
Equity in underlying net tangible assets .....	\$2,738,000	\$2,686,000
Equity in underlying deferred exploration and administrative expenditures .....	1,718,000	1,795,000
Excess of cost of investment over underlying net book values — attributed to mineral interests .....	1,946,000	1,521,000
Equity in earnings (losses) since acquisition .....	(381,000)	(102,000)
Carrying value on equity basis	<u>\$6,021,000</u>	<u>\$5,900,000</u>

The associated companies in the mineral exploration business have deferred exploration and administrative expenditures with the intention that they should be amortized by charges against income from future mining operations. The company would also amortize, by charges against its interest in such income, the excess of cost of investment over underlying net book values. The recovery of these costs from operations is dependent, therefore, upon the discovery of sufficient ore and the development by the associated companies of economic mining operations.

The quoted market value of the shares in Westfield Minerals, Whim Creek and Anglo United Development amounted to \$6,673,000 at December 31, 1975 and \$3,229,000 at December 31, 1974. However, because of the number of shares held, the quoted market value is not necessarily indicative of their realizable value. Smelter Corporation of Ireland Limited is a private company with no quoted market value for its shares.

### 3. Other Listed Shares

Other listed shares include:

- (a) An investment in 638,341 shares (1974 — 630,441 shares) of Tara Exploration and Development Company Limited carried in the accounts at a cost of \$9,324,000 (1974 — \$9,205,000) representing 9.9% of the shares outstanding at December 31, 1975 (1974 — 9.8%). Because of the number of shares held, the quoted market value of \$9,256,000 at December 31, 1975 (\$8,984,000 at December 31, 1974) is not necessarily indicative of their realizable value.

Tara Mines Limited announced on September 19, 1975 that the Minister for Industry and Commerce, the Minister for Finance and the company had formally executed a State Mining

Lease in respect of Tara's Navan mining property, and that receipt of the lease would enable the company to complete arrangements for the senior financing required to develop the Navan property.

- (b) An investment in 129,032 common shares of W. R. Grace & Co., carried in the accounts at an estimated realizable value of \$3,519,000 and disposed of since December 31, 1975 for a cash consideration of \$3,603,000.

### 4. Income Taxes

Income taxes comprise the following:

	1975	1974
Current and future taxes		
Canadian .....		
Foreign .....	\$ 655,000	\$2,197,000
	<u>655,000</u>	<u>2,197,000</u>
Deferred taxes		
Canadian .....		
Foreign .....	(314,000)	1,203,000
	<u>(314,000)</u>	<u>1,203,000</u>
	<u>\$ 341,000</u>	<u>\$3,400,000</u>

Deferred income taxes relate to the following timing differences:

	1975	1974
Accelerated depreciation and amortization .....	\$ (256,000)	\$1,652,000
Costs charged to expense on books but not deductible until paid (net) .....	(58,000)	(449,000)
	<u>\$ (314,000)</u>	<u>\$1,203,000</u>

The income tax expense for 1975 is 26.2% less (1974 — 4.2% less) than the statutory Canadian income tax rate. The reasons for this difference are as follows:

	Percentage of Pre-tax 1975	Income 1974
Statutory Canadian income tax rate	49.0	50.0
Application of exploration expenditures carried forward from prior years .....	26.0	2.2
Application of tax losses carried forward from prior years .....	12.0	
Foreign income subject to foreign income tax but not subject to Canadian income tax .....	7.2	3.2
Less:		
Items not deductible for tax purposes:		
Equity in losses of associated companies .....	(9.1)	(0.5)
Provision for decline in value of investments .....	(7.9)	
Other (net) .....	(2.0)	(0.7)
	<u>26.2</u>	<u>4.2</u>
Income tax expense .....	<u>22.8</u>	<u>45.8</u>



The future and deferred income tax balance of \$1,754,000 (1974, \$3,265,000) comprises the following:

	<u>1975</u>	<u>1974</u>
Income taxes payable in the first quarter of 1977 (1974, first quarter of 1976) .....	\$ 865,000	\$2,062,000
Income taxes deferred because of timing differences in the recognition of certain expenses for tax and financial statement purposes .....	<u>889,000</u>	<u>1,203,000</u>
	<u>\$1,754,000</u>	<u>\$3,265,000</u>

Based upon currently anticipated expenditures and operations, it is expected that the deferred income tax balance of \$889,000 will be reduced by approximately \$250,000 in each of the years 1976, 1977 and 1978.

## 5. Capital Stock

### (a) Stock option plan

Pursuant to the Officers and Employees Stock Option Plan, options may be granted until June 3, 1979 on up to 300,000 shares of the company's capital stock at prices not less than 90% of the closing price for the company's shares on The Toronto Stock Exchange on the dates the options are granted.

Outstanding at December 31, 1975 are options granted in 1972 on 39,500 shares at \$5.76 per share, exercisable to April 30, 1976, and options granted in 1973 on 2,100 shares at \$5.54 per share, exercisable to May 6, 1976.

During the year to December 31, 1975, no options were exercised, (in 1974, 99,150 shares amounting to \$561,000).

### (b) Share issue

On May 9, 1974, the company purchased from Westfield Minerals 220,000 shares of Vestgron Mines and 1,250,000 shares of Whim Creek in consideration for \$350,000 in cash and 800,000 treasury shares of Northgate Exploration.

## 6. Cash Deposited as Collateral for Guarantee

In August, 1974 the company guaranteed the principal amount of U.S. \$2,500,000 in respect of a loan to Tara Mines Limited by Tara's bankers as well as the interest thereon. It is expected that the company will be released from this guarantee as soon as Tara Mines Limited has completed its senior financing arrangements.

## 7. Anti-Inflation Act (Canada)

The company is subject to the provisions of the Anti-Inflation Act only in relation to the restraint of dividends from October 14, 1975. Under the anti-inflation legislation the maximum dividend rate allowable in the twelve months ending October 13, 1976 is U.S. 65¢ per share. The company, however, has no regular dividend policy.

## 8. Other Statutory Information

Remuneration of the company's directors and senior officers (as defined by The Business Corporations Act of Ontario) amounted to \$455,000 for 1975 and \$397,000 for 1974.



## Summary of 1975 Results by Quarters

(expressed in \$000's)

	Three Months Ended				Total
	March 31	June 30	Sept. 30	Dec. 31	1975
Gross selling value of metal and metal concentrates	\$9,075	\$8,862	\$9,785	\$6,076	\$33,798
Deduct shipping, smelting and marketing expenses	3,819	3,743	3,783	2,035	13,380
	5,256	5,119	6,002	4,041	20,418
Operating and administrative costs (including royalty) .....	3,919	4,991	4,246	3,237	16,393
Operating profit before the undernoted .....	1,337	128	1,756	804	4,025
Depreciation and amortization .....	1,126	808	689	732	3,355
Operating profit (loss) .....	211	(680)	1,067	72	670
Profit on disposal of fixed assets .....	—	—	—	584	584
	211	(680)	1,067	656	1,254
Exploration .....	173	253	329	279	1,034
	38	(933)	738	374	220
<b>Non-operating revenues:</b>					
Equity in income (loss) of associated companies	122	14	(200)	(215)	(279)
Interest, dividends and sundry income .....	442	962	446	(54)	1,796
Provision for decline in value of investments .....	—	—	—	(240)	(240)
Income before taxation .....	602	43	984	(132)	1,497
Taxation (charge) credit .....	(190)	(190)	(450)	489	(341)
Net income .....	412	(147)	534	357	1,156
Earnings per share .....	\$0.06	(\$0.02)	\$0.08	\$0.05	\$0.17

## MANAGEMENT'S DISCUSSION AND ANALYSIS OF THE SUMMARY OF EARNINGS

### 1975/74:

Revenue from metals and metal concentrates declined by 21% in 1975 compared with 1974. This decline was mainly due to the lower prices received in 1975 for lead and copper together with a lower production of lead concentrates at the Tynagh Mine. However, the lower copper price was largely offset by the higher tonnage of copper concentrates sold by the Gortdrum Mine in 1975.

Consolidated operating expenses during 1975 increased by 14% compared with 1974, reflecting general increases in the cost of labour, materials and services used by the mines. These increases were partly offset by improved operating efficiencies at the Gortdrum Mine.

The 21% decrease in depreciation and amortization charges in 1975 was mainly due to the termination of operations at the Gortdrum Mine in August 1975 resulting in less than a full year's charge.

*Continued on next page*

# MANAGEMENT'S DISCUSSION AND ANALYSIS OF THE SUMMARY OF EARNINGS

Continued from previous page

Exploration costs increased by 74% in 1975 reflecting the higher level of drilling activities in the Republic of Ireland including the Tynagh Mine lease area.

The \$584,000 profit realized on the disposal of fixed assets relates to the Gortdrum Mine where virtually all of the fixed assets other than the concentrator and mercury extraction plant were sold following the termination of operations.

The increase in 1975 in the Company's equity in losses of associated companies was due to further write-offs by such companies of exploration expenditures previously deferred.

Cash, including short term securities and deposits, increased by \$4,362,000 during 1975 and this is reflected in the 10% increase in 1975 in interest and other non-operating income.

Market declines during 1975 resulted in the provision of an additional \$240,000 (1974 — nil) for decline in the value of the Company's investments.

The decline in the charge for Government royalty and income taxes in 1975 resulted from the decrease in pretax income from mining operations.

Net income for 1975, after income taxes, includes \$976,000 in respect of after tax income from mining operations at the Gortdrum Mine. Because of the termination of Gortdrum's operations during 1975, no contribution to revenue or expenses is expected from this source in 1976.

## 1974/73:

Revenue from metals and metal concentrates declined by 8% in 1974 compared with 1973. This decline was mainly due to the lower concentrate production at the Tynagh Mine and the lower tonnage of copper concentrates sold by the Gortdrum Mine. These adverse factors were, however, partly offset by the higher prices received in 1974 for all metals.

Consolidated operating expenses during 1974 were 13% higher than in 1973 due to general increases in the cost of labour, materials and services as well as more expensive underground mining at the Tynagh Mine.

The \$11,961,000 increase in cash, including short term securities and deposits, during 1974 was the principal factor in the \$1,298,000 increase in 1974 in income from interest and other non-operating income.

Prior to 1974 the consolidated Irish subsidiary companies' income from mining operations was exempt from Irish income taxes. During 1974 the Irish Government withdrew this exemption under the provisions of the Finance (Taxation of Profits of Certain Mines) Act, 1974. The Act requires a determination of income taxes for 1974 and future years at a current rate of approximately 50%. This change resulted in a provision for income taxes on mining income for the first time in 1974. The amount provided was \$3,400,000.

No provision for decline in the value of investments was made in 1974 (1973 — \$900,000) because of the general increase during 1974 in the market value of the Company's investments.

## Price Range of Common Shares and Dividend Payments

The following table indicates the high and low closing prices for Northgate Common shares on The Toronto Stock Exchange (the principal trading market for Northgate shares) for the periods indicated, as reported by The Toronto Stock Exchange. Also shown are the per share dividend payments made in the respective periods.

	High	Low	Dividend
1974 1st Quarter .....	8.62	4.60	—
2nd Quarter .....	7.00	4.80	US\$0.40
3rd Quarter .....	6.75	3.60	—
4th Quarter .....	4.15	2.50	US\$0.25
1975 1st Quarter .....	4.90	2.85	—
2nd Quarter .....	5.00	3.75	US\$0.25
3rd Quarter .....	4.50	3.35	—
4th Quarter .....	3.70	2.90	—

# FIVE YEAR COMPARATIVE

(expressed in thousands of Canadian dollars unless

## Revenue — metals and metal concentrates

Operating expenses .....	
Depreciation and amortization .....	
Government royalty .....	
Exploration .....	
Interest on long term debt and amortization of debt discount and expenses .....	
Profit on disposal of fixed assets .....	

Equity in income (loss) of associated companies .....	
Interest, dividends and profit on sale of investments .....	
Provision for decline in value of investments .....	

Income before income taxes and extraordinary item	
Income taxes .....	

Income before extraordinary item .....	
Provision for decline in value of investments .....	

Net income (loss) for the year .....	
--------------------------------------	--

Earnings (loss) per share	
Income before extraordinary item .....	
Extraordinary item .....	

Net income (loss) per share for the year .....	
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Dividends paid per share .....	
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Number of shares used in computing earnings per share .....	
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## YEAR END FINANCIAL HIGHLIGHTS

(expressed in thousands of Canadian dollars unless

Working capital .....	
Investments in affiliated and other companies (net) .....	
Fixed assets (net) .....	
Other assets and deferred charges .....	
Cash deposited as collateral .....	
Total invested capital .....	
Future and deferred income taxes .....	
Shareholders' equity .....	
Shares outstanding .....	
Share price high/low (during the year) .....	

## FIVE YEAR COMPARATIVE SUMMARY OF PRODUCTION HIGHLIGHTS

Tons ore mined .....	
Tons ore preconcentrated .....	
Tons ore treated in concentrator .....	

Concentrate Production	
Lead .....	
Zinc .....	
Bulk .....	
Copper .....	
Totals .....	

Tons treated in concentrator .....	
Tons of concentrates produced .....	
Tons of roasted concentrates produced .....	
Flasks of mercury recovered .....	
Tons of concentrates sold .....	
Flasks of mercury sold .....	



# SUMMARY OF HIGHLIGHTS

wise indicated)	1975	1974	1973	1972	1971
	\$20,418	\$25,945	\$28,116	\$16,715	\$13,187
.....	16,374	14,312	12,644	9,429	8,774
.....	3,355	4,255	4,170	3,675	4,111
.....	19	911	1,171	263	61
.....	1,034	594	526	422	1,081
.....	—	—	—	191	274
.....	(584)	—	—	—	—
	20,198	20,074	18,511	13,980	14,301
	220	5,871	9,605	2,735	(1,114)
	(279)	(80)	78	33	(47)
	1,796	1,635	337	326	358
	(240)	—	—	—	—
	1,497	7,426	10,020	3,094	(803)
	341	3,400	—	—	—
	1,156	4,026	10,020	3,094	(803)
	—	—	(900)	—	(550)
	\$ 1,156	\$ 4,026	\$ 9,120	\$ 3,094	\$(1,353)
	\$0.17	\$0.61	\$1.67	\$0.51	\$(0.13)
	—	—	(0.15)	—	(0.19)
	\$0.17	\$0.61	\$1.52	\$0.51	\$(0.22)
	U.S. \$0.25	U.S. \$0.65	—	—	U.S. \$0.25
	6,891,699	6,605,739	5,992,549	5,981,799	5,981,799

wise indicated)	1975	1974	1973	1972	1971
	\$ 17,867	\$16,508	\$11,957	\$ 5,708	\$ 128
	22,272	22,394	18,589	12,010	11,660
	5,715	8,102	10,142	12,200	11,158
	2,144	3,142	4,389	5,978	9,856
	2,794	2,724	—	—	—
	50,792	52,870	45,077	35,896	32,802
	1,754	3,265	—	—	—
	49,038	49,605	45,077	35,966	32,935
	6,891,699	6,891,699	5,992,549	5,981,799	5,981,799
	\$5.00/2.85	\$8.62/2.50	\$6.75/3.95	\$6.90/4.50	\$11.25/4.35

## TYNAGH

	648,477	667,119	682,734	661,312	675,781
	648,477	667,119	533,026	239,090	—
	488,372	490,356	529,417	422,222	675,781

	29,734	38,084	74,400	57,828	53,932
	41,988	42,511	22,807	35,872	43,779
	4,277	4,849	14,363	39,100	52,905
	2,037	7,038	—	—	—
	78,036	92,481	111,570	132,800	150,616

## GORTDRUM MINE

	354,612	491,382	330,226	401,635	536,638
	14,183	13,288	7,106	11,590	12,949
	4,150	6,369	7,803	10,869	12,394
	423	775	1,345	1,250	2,345
	17,284	12,112	13,970	13,332	12,661
	—	908	1,300	1,308	2,232

NOTE: Refer to notes to consolidated financial statements for additional information.



# Northgate Exploration Limited

## OFFICERS AND CORPORATE MANAGEMENT

Patrick J. Hughes,  
*President*

Sylvester P. Boland,  
*Vice-President of Finance*

Matthew Gilroy,  
*Vice-President*

A. Garfield Heyes,  
*Vice-President of Corporate Relations*

Peter McAleer  
*Vice-President*

Andrea H. Meldrum  
*Vice-President of Exploration*

Michael Stuart,  
*Vice-President of Operations*

Michel Trebucq,  
*Vice-President of Marketing*

Thomas E. Kelly,  
*Secretary-Treasurer*

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*Consulting Geologists*

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*Investment Dealer,*  
*Chairman and Director,*  
*Equitable Securities Limited*

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Sylvester P. Boland  
*Secretary*

#### MINE MANAGER

D. H. B. FitzGerald

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#### MINE MANAGER

Derick Morris

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